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10/658,384	09/10/2003	Malcolm Betts	PAT 2721-2	4129

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EXAMINER
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PARK, JUNG H

ART UNIT	PAPER NUMBER
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2619

NOTIFICATION DATE	DELIVERY MODE
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11/02/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/658,384

Applicant(s)

BETTS ET AL.

Examiner

Jung Park

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20, 22-24, 28-40, 44-46, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-40 and 44-46 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-14, 17-20, 22-24, 28-32, 37, 48 and 49 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 15, 16 and 33-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Remark***

1. This communication is considered fully responsive to the Amendment filed on 08/10/2007.
  - a. An objection to the drawing is not withdrawn since it has not being amended accordingly.

***Drawings Objections***

2. The drawings are objected to because drawing elements in Figures 2 and 3 need descriptive text label. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Appropriate correction required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 11-14, 17-20, 1-4, 7-10, 22, 23, 28-32, 37, 48 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Boodaghians (US 6965572, "Boodaghians").

**Regarding claims 11**, Boodaghians discloses a data packet implemented for transmission in a data network having one or more layers, comprising:

- a) a label stack (label stacks 1-N, see fig.1), the label stack including one or more labels on the basis of which the data packet can be switched in the data network (labels, see 1 fig.1 and col.2, ln.1-13), each label having a switching significance in one or more of the layers of the data network (5-8 fig.1 and col.2, ln.1-13);
- b) a plurality of layer identifiers (layer identifiers in entries 1-N, see 3 fig.1) associated with a plurality of labels (label entries 1-N, see fig.1) in the label stack (a series of label stack, see col.2, ln.9-13).

Regarding claim 12, Boodaghians discloses, wherein the layer identifier allowing to distinguish between identical labels having switching significance in different layers of the data network (col.2, ln.10-13)."

Regarding claim 13, Boodaghians discloses, "wherein the layer identifier allowing to determine in which layer of the data network the at least one label has a switching significance (col.2, ln.1-13)."

Regarding claim 14, Boodaghians discloses, "wherein the label stack includes a layer identifier associated with each label in the label stack (fig.1 and col.2, ln.1-13)."

Regarding claim 17, Boodaghians discloses, "wherein the label stack is of variable size allowing entities in the data network processing the data packet to push

labels in the label stack and pop labels from the label stack (replace labels, see col.2, ln.21-30)."

Regarding claim 18, Boodaghians discloses, "including an address of an entity in the data network at a layer of the data network to which the data packet is destined (6 fig.1)."

Regarding claim 19, Boodaghians discloses, "wherein the address is an IP address (6 fig.1)."

Regarding claim 20, Boodaghians discloses, "including a payload (5 fig.1)."

**Regarding claim 1**, it is a claim corresponding to claim 11, except the limitation of "computer-readable medium (processor and memory, see fig.4)".

Regarding claims 2-4 and 7-10, they are claims corresponding to claims 12-14 and 17-20, respectively and are therefore rejected for the similar reasons set forth in the rejection of the claims.

**Regarding claim 22**, Boodaghians discloses a network entity, the network entity comprising:

a) one or more input ports (ports, see fig.4) for receiving data packets to be label switched (col.5, ln.41-44);

b) one or more output ports (ports, see fig.4) for releasing data packets from the network entity (col.5, ln.48-55);

c) a switching controller (processing unit, see 65 fig.4) for switching a given data packet received at one of the input ports to one of the output ports (ports, fig.4) on a basis of a label contained in the given data packet (col.5, ln.57-65), the switching controller operative to ascertain if the label contained in the given data packet has a switching significance in the layer of the data network to which the network entity is associated (identifies ...processing ..., see col.5, ln.57-67);

- wherein the given data packet has a label stack (label stack, see col.2, ln.9-13), the label contained in the given data packet being in the label stack (fig.1 and col.2, ln.9-13);  
and

- wherein the network entity is associated on a basis of at least one of a plurality of layer identifiers contained in the label stack (routing using layer identifiers, see fig.1 and col.2, ln.1-13 and ln.21-30).

Regarding claim 23, Boodaghians discloses, "completing the switching of the given data packet when the switching controller ascertains (transmitting, see col.5, ln.54-56)."

Regarding claim 28, Boodaghians discloses, " wherein the data packet contains a layer identifier associated with each label in the label stack (as shown in fig.1)."

Regarding claim 29, Boodaghians discloses, "wherein the switching controller is capable to push a label in the label stack (col.5, ln.57-64)."

Regarding claim 30, Boodaghians discloses, "wherein when pushing a certain label in the label stack the switching controller also inserting a layer identifier in the given data packet associated with the certain label (fig.1)."

Regarding claim 31, Boodaghians discloses, "wherein the switching controller capable to pop a label from the label stack (col.5, ln.57-64)."

Regarding claim 32, Boodaghians discloses, "wherein when popping a certain label from the label stack the switching controller also removes a layer identifier from the given data packet associated with the certain label (fig.1)."

Regarding claim 37, Boodaghians discloses, "wherein the network entity is an LSR (fig.3)."

**Regarding claim 48**, Boodaghians discloses a method for label switching data packets in a data network having one or more layers, the method comprising:

- a) receiving a data packet at a location in the data network (fig.3) managed by a certain network operator (65 fig.4), the data packet containing a plurality of layer identifiers for a plurality of labels (identifiers in label entries, see fig.1 and col.2, ln.9-13)
- b) ascertaining if the label has a switching significance in an area of the network (MPLS domain table, see 10 fig.3) managed by the certain network operator (65 fig.4);
- c) switching the data packet at the location on the basis of the label (label table, see fig.3) if the ascertaining indicates that the label has a switching significance in the area

of the network (note: MPLS domain, see 10 fig.3) managed by the certain network operator (65 fig.4).

**Regarding claim 49**, it is a claim corresponding to claim 22 and is therefore rejected for the similar reasons set forth in the rejection of claim 22.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boodaghians.

Regarding claim 24, Boodaghians does not explicitly disclose, "wherein the switching controller does not effect the switching of the given data packet when the switching controller ascertains that the label contained in the given data packet has no switching significance in the layer of the data network to which the network entity is associated." However, when the data packet travels IP domain the label is not required to process (IP domain and MPLS domain, see fig.3). Therefore, it would have been obvious to one of ordinary skill in the art at the time knows that the switching controller does not process MPLS label when the packet travels outside of MPLS domain with the motivation of standard compliance.

***Allowable Subject Matter***

7. Claims 38-40 and 44-46 are allowed.



8. Claims 5, 6, 15, 16, and 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1, 11, 22, 48, and 49 have been considered but are not persuasive.

At page 10, with respect to the amended claims, applicant argues that Boodaghians fails to disclose, "a plurality of layer identifiers associated with a plurality of labels in the label stack."

In reply, Boodaghians explicitly discloses that shim header consists of a series of label stack entries as shown in 1-N in Figure 1 and each label stack entry includes a layer identifier as shown in 3 Figure 1 and col.2, ln.9-12. Also see col.2, ln.21-30 for packet forwarding using label stack entries. Therefore, the examiner respectfully disagrees.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Contact Information**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 6:15-3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Ogad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP  
Jung Park  
Patent Examiner

EDAN . . ORGAD  
SUPERVISORY PATENT EXAMINER

Edan Ogad 10/29/07